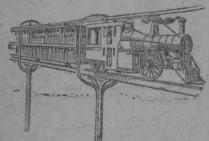
## MANY SCHEMES FOR REAL RAPID TRANSIT

Above the Ground, Under the Ground, in the Streets and Through the Blocks.

EVERY PLAN THE VERY BEST



greatest congestion is in the arterial lines of travel, along the central longitudinal thorough-

EUGINETY PLAN THE VERY BEST

Euginetrs, Geninate, Amaieurs, Theorisis and Granks All Wrestling with New York's Great Problem.

TAKE YOUR CHOICE FROM THESE

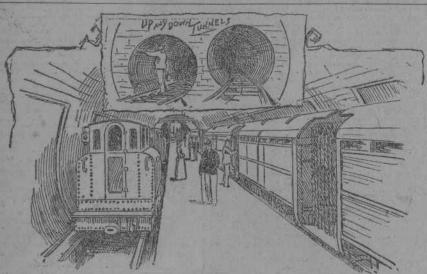
TAKE YOUR CHOICE FROM THESE

But is to be above ground or under groundt-that is the question. To most people it is a very perplexing question, for. But the professional advocato of either ayes tem is very people it is a very perplexing question, for. But the professional advocato of either ayes tem is very people it is a very perplexing question, for. But the professional advocato of either ayes tem is very every fact that the very consideration and provides in the cut of the screening of the consideration of the consid

travel, along the central longitudinal thoroughfares principally and along the main crosstown business thoroughfares.

"And it is through these lines that a rapid transit railway will secure its greatest patronage. It is along these lines that a rapid transit railway will secure its greatest patronage. It is along these lines that a rapid transit system would be of the greatest possible accommodation to the people. A viaduet system traversing any of these thoroughfares is not to be considered. It would destroy the thoroughfare, and the destruction of a thoroughfare, and the destruction of a thoroughfare, and the destruction of a thoroughfare of importance would be a greater evil to the city than the failure of rapid transit.

"Heyated railreads are equally, or even to a greater extent, out of the question. They make of the greatest of the greatest patronage. It is along these lines that a rapid transit system would be of the greatest patronage. It is along these lines that a rapid transit system would be of the greatest patronage. It is along these lines that a rapid transit system would be of the greatest patronage. It is along these lines that a rapid transit system would be of the greatest patronage. It is along these lines that a rapid transit system would be of the greatest patronage. It is along these lines that a rapid transit system would be of the greatest possible accommodation to the prophe. A viaduet system traversing any of the prophe the city to its northern limits, with diverging branches wherever desired. A main contral line could follow Broadway to Forty-afth ferry, three main lines could be constructed longitudinally through the city to its northern limits, with diverging branches wherever desired. A main contral line could follow Broadway to Forty-afth ferry, three main lines could be constructed longitudinally through the city to its northern limits, with diverging branches wherever desired. A main contral line could follow Broadway to Forty-afth ferry, three main lines could be constructe



UNDERGROUND STATION-THE GREATHEAD SYSTEM.

that the inventor of each and every one of these systems is very certain that he and he alone has found the true solution of the problem.

Austin Cerbiu's gigantic underground scheme was so theroughly expisined in last Tuesday's Heart that.

Austin Cerbiu's gigantic underground scheme was so theroughly expisined in last Tuesday's Heart that to say anything about it would only be to repeat what has already been told. Among other underground systems of rapid transit much attention has recently been paid to what is known as the Greathead, a London engineer, who, if all the claims made for his system are well founded, is more than worthy of his name. It has not advantage over some systems, insamuch as it has got beyond the paper stage and has proven itself practical. It is in actual operation on the other side of the Atlantic on what is known as the City and South London Bailway—a recently constructed doubts tunnel underground railway, each tunnel containing a single track three and a quarter miles long, on which effective motors are substituted for the criticary steam locomotives, thus getting rid of smoke and other products of combination which would otherwise render the tunnels unendurable.

a street so complete and melanchely an architect-ural ruin that any plan for their existence would not be tolerated."

through Tenth avonus to the Kingsbridge road, crossing under the Harlen at 222d street and con-tinuing by the Spuytan Duyvil parkway or the Fieldsion road and Riverside avonus to the north-

not be tolerated."

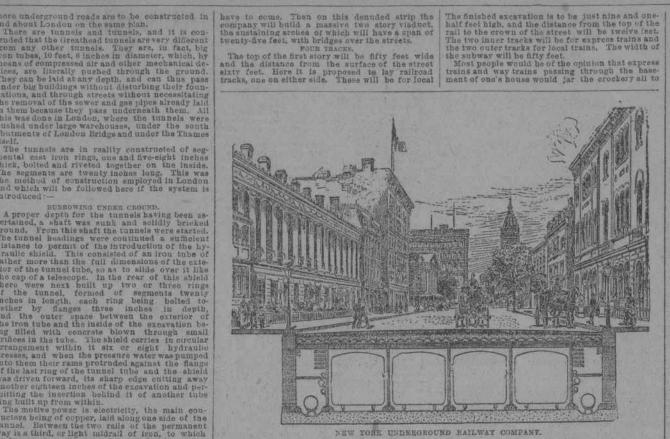
PAIR PLAY FOR ALL

That is calculated to make the men who have shought out gorgeous and colossal schemes for tolving the rapid transit problem by means of rall-roads above the ground hide their diminished heads in shame. Honors are, therefore, casy.

But the Harato has no axe to grind on the rapid transit grindstone. His in 'committed to any system. It merely wants the best system to win-whother it he on the ground, or above the ground or mader ground. And that that much desired consummation may be attained it proposes as far as possible to give a fair show to all systems, that the public may judge of their merits. In this article will be shown the distinctive features of some of the systems proposed. And it may be remarked, incidentally, that the inventor of each and every one of these systems is very certain that he and he alone has found the true solution of the problem.

Austin Corbin's gigantic underground scheme was so theroughly expission in last Tuesday's lisaam that to say anything about it would only be to repeat what has already been told. Among other underground systems of rapid transit much attention has recently been read and Riverside a route could be laid out substantially along the following lines:—Through Broad and Riverside a route could be laid out substantially along the following lines:—Through Broad and Nassau streets and under City Hail Park Warnet to a connection with the New York and Harlem Hailroad. A branch from the Largette place, to Irving place, to Largette place, to





trains. Then from the top of this first viaduct is to mee another smaller vanduct, which will be twenty-two fact which and will energy the structure of the str



south of Spuyten Duyvil is not much below \$30,000,000. That is a pretty big figure. But it deesn't daunt the projectors. They propose to erect fireproof buildings between the arches which will serve as shops, warehouses or private residences, according to the nature of the locality. And from these the company expects got an annual rental of something like \$4,000,000, in addition to owning a big railroad that would make the company about the biggest landlord in the city. The fotal cost of the line south of Spuyten Duyvil Creek as estimated at \$55,000,000, and for the whole line about \$30,000,000, and for the whole line about \$30,000,000.

The total cost of the line south of Spuyten Duyvil Creek is estimated at \$56,000,000, and for the whole line about \$50,000,000.

BOSY CALCULATIONS.

But with what they will get from rebiling houses under the viaducts the projectors are very certain—and have proved their faith by figures—that big dividends can be made by carrying passengers at a uniform rate of five cents below the Harlem River and one cent a mile additional to points above.

And then everything is to be done in such tiptop style that will make the underground fellows and the subway advocates feel that they have got no business to meddle with rapid transit.

It is proposed to have thirty-one stations between Spuyten Duyvil Creek and the Battery. Access to them will be by means of elevators. There is to be none of the stair climbing that is required of patrons of the "L" road, and which, according to one statistician who appeared before the Rapid Transit Commissioners, increases the number of deaths from heart failure by exactly thirty-three per cent.

Of course the express trains that thunder along at the rate of fifty-five miles an hour, and which are expected to go from Tarrytown to the Battery inside of forty minutes, will stop at only a few of these stations. But the local trains, when stop at all of them, will, it is said, in the matter of speed beat the "L" trains all to pieces. All the projectors of rapid transits cohemes promise that.

Some people would imagine that sleeping in a house with a four track railroad overhead, on which trains followed trains in rapid succession, might be attended with some difficulties. But they don't know what selentific ongineers can do in this days, or at least are willing to guarantee that they can do. It is confidently ascerted by the interposition of arches of solid masonry and concrete and some other things between what might be called the roofs of the houses and the tracks the occupants of the houses and the tracks the occupants of the house will hear nothing more than a gentle humming noise like the

best anything that Bellamy ever dreamed of.

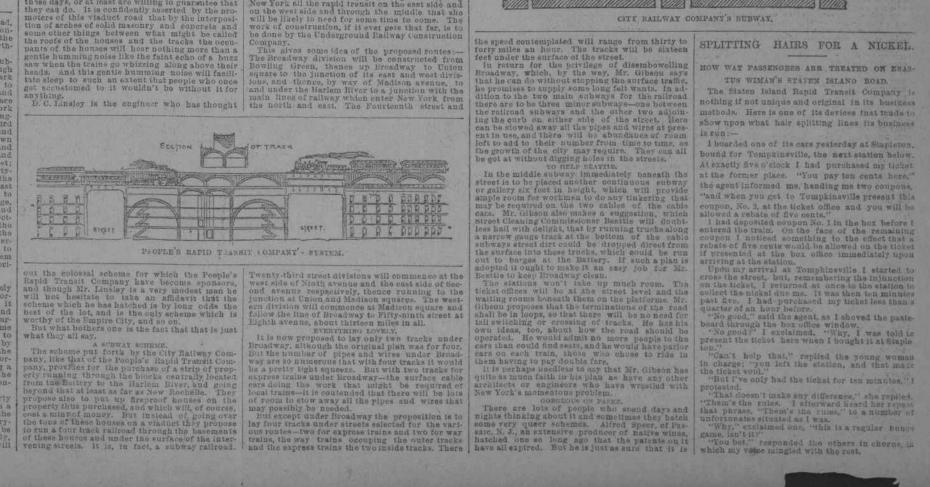
Here is the route proposed for this city railway:—

The southern terminus is located upon the block bounded by South, Whitehall, Front and Moore steets, opposite the Brooklyn ferries. Thence it passes through the blocks west of Broad street, east of the Produce Exchange, and crosses Broadway north of the Standard Oil Building and south of Aldrich Court, curving northerly within the block bounded by Washington, Greenwich, Front and Rector streets; thence northerly between Church street and West Broadway, Greene and Wooster to Blešcker street; thence curving to the intersection of Carmine street, Minetta hane and Sixth avenue; thence between Sixth and Seventh avenues, crossing Broadway at Thirty-aixth street, to West Fifty-sixth street; thence curving westerly to the intersection of Fifty-inith street, Broadway, Eighth avenue and the Boulevard; thence between Eighth-and Ninth avenues (300 feet west of Eighth avenue, crossing St. Nicholas avenue at 123d and 125th streets, Kingsbridge road at 152d street, Tenth avenue, crossing St. Nicholas avenue at 123d and 125th streets, Kingsbridge road at 152d street, Tenth avenue north of High Bridge Park.

The total length of the road as at present laid out is sixteen miles, but it is proposed to continue it to New Rochelle if it successfully runs the gantlet of the Rapid Transit Commission, the Legislature and the capitalists.

\*\*CHER THE STREETS\*\*

The plans of the New York Underground Hailway Company, except that instead of purchasing the right of way through the blocks they propose to go under the streets—which, of course, is a much less costly mothed of construction. But it necessitates certain concessions in the way of frauchises that are sometimes hard to get. The three scheines are part and parcel of a big general plan for giving New York kill he rapid transit one cost side and on the west side and tongth the middle that the will be likely to need for some tince to come. The work of construction will be constructed from

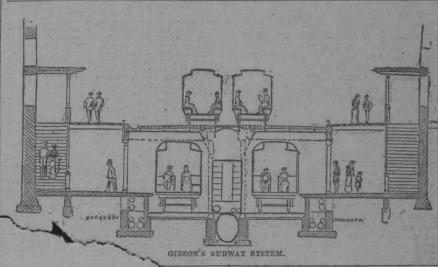


conce stowed away in these galleries it is claimed that it will be no longer necessary to tear up the street to get at them to make repairs or connections.

This is the method of construction as described to me by one of the engineers, Colonel Rowland Hazard:—Street excavation is effected in socious, surface travel being maintained. A uniform platform of concrete, about two feet in thickness, floored by a half took of Tribilada asphale, extending across the street at a depo which and surface the connections to result and are undisturbed throughout the standard section. This vault wall is litted while under construction with suitable connections for gas, steam, electricity, sewer and water at every house. This wall is also an external wall of the pipe galleries, adjacent to both ourbs. These suitainess are subdivided longitudinally and continuously by beams bolted to their internal and inserted in their external walls taken to be pipes. Access is provided at the termini, certain roes attreets and squares and all stations. There being no continuous floor above the foundation, the pipes in either gallery are accessible from above or below.

The internal wall supporting the galleries is formed by iron columns, placed four feet apart and coincident with those forming the court but largely to the cost of construction, but are indispensable to a safe, convenient and equilable replacement of present impediation, but are indispensable to a safe, convenient and equilable replacement of present impediation, but are indispensable to a safe, convenient and equilable replacement of present impediation of up way and express and down way and express and down way and express and down way and express and formed by five rows of columns, arranged longitudinally, resting on a fairney and running at a ratio of up way and express and down way and express in dispense to limit the proper and the provided at the termini, certain to make equilable replacement of p

will be lots of stations for the way trains and just a few for the express trains. All the frains are to be light, comfortable, well ventilated, "comparatively noiseless" whatever that may mean—and, in short, everything that can be desired. The express trains will statin a speed that is "equal to any and excelled by none," and so on and so on and so on any and excelled by none," and so on and so on and so on any and excelled by none, "and so on and so on any and excelled by none," and so on and so on any and excelled by none, and so on any so on any





SECTION OF HENNING'S GRAVITY SYSTEM.

with a guide beam over head and just enough width on either side of the rail for elbow room. But what the company would like above a things is to get held of the "L" tracks just for pledges the projectors of each and every rapid transit scheme are most profuse and generous. It is only when they come to discuss one another's annewes that the limit of their generosity is reached. But it was ever thus and ever will be.

R. W. Gibson, the well known architect, has prepared plans for a subway railroad with some original features. He proposes to carry his subway under Broadway because that is the streetslong which the biggest crowd moves and where, presumally, there is the greatest demand for rapid transit, Arter reaching the intersection of Broadway because that is the streetslong which the biggest crowd moves and where, presumally, there is the greatest demand for rapid transit, Arter reaching the intersection of Broadway has no name for it is only what he will be stake that he can run four trains on any of the present 'I' lines, taking two rails for up and down express that he can run four trains on any of the present 'I' lines, taking two rails for up and down express that he can run four trains on any of the present 'I' lines, taking two rails for up and down express to local trains and two rails for up and down express mand two rails for up and down express to be steen entered to make the will vun the latter trains and two rails for up and down express which the biggest crowd moves and where, presumally, there is the greatest demand for rapid trains. And if the privilege is granted him be will make an affidity in second and the biggest crowd moves and where, presumally, there is the greatest demand for rapid trains. And if the privilege is granted him be will make an affidity in second and the first on the will water the sum four trains on the one run run four trains on any of the present 'I' lines, taking two rails for up and down express that he can run four trains on any of the present 'I' lines, taking two rails for up and down expression.

It would be a case of greatest demand for the privilege is granted him be will make an affidite while, so that the will supplement the privilege is

